## CONTENTS

## Volume 39, 1972

AHERN, P. R. AND RUDIN, WALTER. Factorizations of bounded holomorphic functions	767
AKEMANN, CHARLES A. AND WALTER, MARTIN E. Non-abelian Pontriagin duality.	451
AVEZ, ANDRÉ. Riemannian manifolds with non-negative Ricci curvature	55
Beard, J. T. B., Jr. Matrix fields over prime fields	313
BEARD, J. T. B., JR. Matrix fields over finite extensions of prime fields	475
Bennett, G. and Kalton, N. J. FK-spaces containing co	561
Bennett, G. and Kalton, N. J. Addendum to "FK-spaces containing $c_0$ "	819
Beresin, May and Levine, Eugene. Primitive numbers for a class of multiplicative functions.	529
Bergum, Gerald E. The distribution of $k$ -th power residues and non-residues in the integral domain $Z(\sqrt{-2})$	19
Brauer, Alfred and Gentry, Ivey C. On stochastic matrices whose absolute smallest characteristic root is real	265
Brawley, J. V. and Levine, Jack. Equivalence classes of linear mappings with applications to algebraic cryptography, I	121
Brawley, J. V. and Levine, Jack. Equivalence classes of linear mappings with applications to algebraic cryptography, II	133
Brawley, J. V. and Levine, Jack. Equivalence classes of involutory mappings	211
Brechner, Beverly. Topological groups which are not full homeomorphism groups.	97
Brenner, J. L. Some simultaneous equations in matrices	801
Buckhiester, Philip G. The number of $n \times n$ matrices of rank $r$ and trace $\alpha$ over a finite field	695
Burbea, Jacob. On the Bergman metrics and their indicatrixes	9
Burgess, C. E. Extending self homeomorphisms of a wild sphere described by Gillman	725
Carlitz, L. Some identities in combinatorial analysis	31
Carlitz, L. Rectangular arrays of zeros and ones	153
Carlitz, L. Enumeration of sequences by rises and falls: a refinement of the Simon Newcomb problem	267

Carlitz, L. Some continued fraction formulas	793
Carlitz, L. and Scoville, Richard. Tangent numbers and operators	413
CARLITZ, L. AND SCOVILLE, RICHARD. Up-down sequences	583
Carlitz, L. and Subbarao, M. V. On a combinatorial identity of Winquist and its generalization	165
Chivukula, R. Rao and May, William D. Lattice properties of $\mathfrak{L}(E,\ F)$	345
Clark, Douglas N. Some star-invariant subspaces in two variables	539
COLTON, DAVID AND GILBERT, ROBERT P. Erratum. Nonlinear, analytic partial differential equations with generalized Goursat data	823
CORDES, CRAIG M. AND ROSELLE, D. P. Generalized frieze patterns	637
Cox, S. H., Jr. and Rush, David E. Endomorphisms of finite rank flat modules	323
CUTRER, WAYNE. Vitushkin's localization operator and holomorphic functions in polydiscs.	737
Daverman, Robert J. Pushing an $(n-1)$ -sphere in $S^n$ almost into its complement	719
DE KONINCK, JEAN-MARIE. On a class of arithmetical functions	807
Dobbins, J. Gregory. On the kernel of a locally compact semigroup	327
Drachman, Byron. A note on principal constructions	701
Duran, J. Peter. Strongly regular matrices, almost-convergence, and Banach limits	497
FLETCHER, PETER AND LINDGREN, WILLIAM F. Orthocompactness and strong Čech completeness in Moore spaces	753
Frazier, Arlene P. The dual space of $H^p$ of the polydisc for $0$	369
Fulton, John D. Stochastic involutions over a finite field	391
Gehring, F. W. Dilatations of quasiconformal boundary correspondences	89
Gentry, Ivey C. and Brauer, Alfred. On stochastic matrices whose absolute smallest characteristic root is real	265
Gilbert, Robert P. and Colton, David. Erratum. Nonlinear, analytic partial differential equations with generalized Goursat data	823
GILMER, ROBERT. On commutative rings of finite rank	381
Griffith, H. C. Locally geometrically unknotted one-manifolds	143

Haddad, David C. Asymptotic values of finitely valent functions	361
HAGOPIAN, CHARLES L. Erratum. A cut point theorem for plane continua	823
Halmos, P. R. Products of shifts	779
HARTMAN, PHILIP. Convex functions and mean value inequalities	351
Hildebrant, John A. Compact p-adic semigroups	39
Hirschhorn, M. D. Partitions and Ramanujan's continued fraction	789
Hodel, R. E. Spaces defined by sequences of open covers which guarantee that certain sequences have cluster points	253
Hudson, Richard H. On the distribution of $k$ -th power nonresidues	85
IFANTIS, EVANGELOS K. Perturbation of non-normal isometries	735
Jacobson, David and Williams, Kenneth S. On the number of distinguished representations of a group element	521
Jung, Fuanglada R. On exterior and interior points of quadrics over a finite field.	183
Jung, Fuanglada R. Solutions of some systems of equations over a finite field with applications to geometry	189
Kalton, N. J. and Bennett, G. $FK$ -spaces containing $c_0  cdot \dots  cdot c_0$	561
Kalton, N. J. and Bennett, G. Addendum to "FK-spaces containing $c_0$ "	819
Kannan, V. and Rajagopalan, M. Regularity and dispersion in countable spaces.	729
KWAK, NOSUP. Imbedding of compact metric spaces into cubes	65
LAKSER, H., PADMANABHAN, R. AND PLATT, C. R. Subdirect decomposition of Płonka sums	485
Lambert, A. L. and Turner, T. R. The double commutants of invertibly weighted shifts	385
LARMORE, LAWRENCE L. A universal countable first-countable Hausdorff space	179
LARSON, ROLAND E. AND VALENT, RICHARD. Basic intervals in the lattice of topologies.	401
Lau, August Y. W. Concerning costability of compact semigroups	657
LAZAR, A. J. The unit ball in conjugate $L_1$ spaces	1

Levine, Eugene and Beresin, May. Primitive numbers for a class of multiplicative functions	529
LEVINE, JACK AND BRAWLEY, J. V. Equivalence classes of linear mappings with applications to algebraic cryptography, I	121
Levine, Jack and Brawley, J. V. Equivalence classes of linear mappings with applications to algebraic cryptography, II	133
LEVINE, JACK AND BRAWLEY, J. V. Equivalence classes of involutory mappings.	211
LINDGREN, WILLIAM F. AND FLETCHER, PETER. Orthocompactness and strong Čech completeness in Moore spaces	753
May, William D. and Chivukula, R. Rao. Lattice properties of $\mathfrak{L}(E,F)$ .	345
McAdam, Stephen. Going down	633
McConnel, R. Functions over finite fields satisfying coordinate $\psi$ -conditions	297
McLean, T. Bruce. Confluent images of tree-like curves are tree-like.	465
McMahon, D. and Wu, T. S. On weak mixing and local almost periodicity	333
Moore, L. C., Jr. and Reber, James C. Mackey topologies which are locally convex Riesz topologies	105
NICHOLS, J. C. AND SMITH, J. C. Embedding characterizations for expandable spaces.	489
Ng, Shu-Bun and Warner, Seth. Continuity of positive and multiplicative functionals.	281
Onneweer, C. W. Absolute convergence of Fourier series on certain groups	599
Padmanabhan, R., Lakser, H. and Platt, C. R. Subdirect decomposition of Płonka sums	485
Palka, Bruce. Fréchet distance and the uniform convergence of quasi- conformal mappings	289
PATTERSON, RICHARD R. AND STONG, ROBERT E. Orientability of bundles	619
Pedersen, Gert K. Applications of weak* semicontinuity in C*-algebra theory	431
PLATT, C. R., LAKSER, H. AND PADMANABHAN, R. Subdirect decomposition of Płonka sums	485

CO		

vii

PRIKRY, KAREL. On a set-theoretic partition problem	77
RAJAGOPALAN, M. AND KANNAN, V. Regularity and dispersion in countable spaces.	729
Reber, James C. and Moore, L. C., Jr. Mackey topologies which are locally convex Riesz topologies	108
RIEFFEL, MARC A. On the uniqueness of the Heisenberg commutation relations	745
Roselle, D. P. and Cordes, Craig M. Generalized frieze patterns	637
Rudin, Walter and Ahern, P. R. Factorizations of bounded holomorphic functions	767
Rush, David E. and Cox, S. H., Jr. Endomorphisms of finite rank flat modules	323
Schneider, Victor. Degree of symmetry of Stiefel manifolds	285
Schurle, Arlo W. Decompositions of $E^3$ into shrinkable ends	45
Scoville, Richard and Carlitz, L. Tangent numbers and operators	413
Scoville, Richard and Carlitz, L. Up-down sequences	583
Sidney, S. J. On the Šilov and Bishop decompositions of a uniform algebra	551
Singhal, J. P. A generating function and a binomial identity	25
SINGHAL, J. P. AND SRIVASTAVA, H. M. Some extensions of the Mehler formula, II	173
SMITH, J. C. AND NICHOLS, J. C. Embedding characterizations for expandable spaces.	489
Smith, Larry. Operations in mod $p$ connective $K$ theory and the $J$ homomorphism	623
SRIVASTAVA, H. M. AND SINGHAL, J. P. Some extensions of the Mehler formula, II	173
STONG, ROBERT E. AND PATTERSON, RICHARD R. Orientability of bundles.	619
Subbarao, M. V. and Carlitz, L. On a combinatorial identity of Winquist and its generalization	165
TAYLOR, S. J. Exact asymptotic estimates of Brownian path variation.	219
Thomson, B. S. A theory of integration	503

Thomson, B. S. On McShane's vector-valued integral	511
Turner, T. R. and Lambert, A. L. The double commutants of invertibly weighted shifts.	385
VALENT, RICHARD AND LARSON, ROLAND E. Basic intervals in the lattice of topologies	401
Vaughan, J. E. Product spaces with compactness-like properties	611
Verma, Arun. On $\sigma$ -type polynomials generated by $A(t)\psi(xH(t))\dots$	149
Wagner, Carl G. Interpolation series in local fields of prime characteristic	203
Walter, Martin E. and Akemann, Charles A. Non-abelian Pontriagin duality	451
Wang, S. P. Compactness properties of topological groups, II	243
WARNER, SETH AND NG, SHU-BUN. Continuity of positive and multiplicative functionals	281
WARREN, H. E. Sets in $C(X)$ analytically equivalent to the open ball	711
Wells, Robert. Concordance of diffeomorphisms and the pasting construction.	665
WILLETT, MICHAEL. The minimum polynomial for a given solution of a linear recursion	101
WILLIAMS, KENNETH S. AND JACOBSON, DAVID. On the number of distinguished representations of a group element	521
Woods, A. C. On a conjecture of Mahler in the geometry of numbers	649
Wu, T. S. and McMahon, D. On weak mixing and local almost periodicity	333

